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DON CIO Lean Six Sigma

Streamlining the Spectrum Supportability Process

By Thomas Kidd and Lois Fairclough - [April-June 2008](#)

The Department of the Navy Chief Information Officer (DON CIO) has embarked upon a Lean Six Sigma (LSS) project to improve data collection and dissemination for rapidly procured DON spectrum-dependent equipment being introduced into theater for the global war on terrorism (GWOT).

The rapid procurement of communications-electronics (CE) equipment presents significant challenges for deployed Marine Corps and Navy forces. Devices and systems fielded without sufficiently accurate spectrum supportability data often cause radio frequency interference to existing communications, navigation and other mission-critical capabilities.

Rapidly procured CE devices requiring electromagnetic spectrum (radio frequencies) include radios, unmanned aerial and ground systems, and radio frequency jamming devices and systems. Office of Management and Budget Circular A-11, Department of Defense Directive 4650.1 and Secretary of the Navy Instruction (SECNAVINST) 2400.1 require the program office or procuring agent to verify that spectrum-dependent systems are "spectrum supportable."

Current spectrum supportability determination processing can take between two months and two years. A more responsive, streamlined process is needed that provides sufficient spectrum-dependent data to conduct operational assessments that identify spectrum conflicts and assure spectrum access.

Subject matter experts from the DON CIO, Chief of Naval Operations, Headquarters U.S. Marine Corps, Office of the Assistant Secretary of Defense (Networks and Information Integration), Navy and Marine Corps Spectrum Center and U.S. Central Command (CENTCOM) actively participated on this LSS project.

The team identified performance measures and associated metrics related to spectrum supportability that are aligned to the DON objective to provide critical GWOT support. These included:

- **Cycle Time Metric:** Significantly reduce process cycle time so that it coincides as closely as possible with the timeframe of spectrum-dependent rapid acquisitions (often completed within one to six months of a validated "Urgent Operational Needs Statement" from Operation Iraqi Freedom and Operation Enduring Freedom forces).
- **Safety Metric:** Reduce the amount of spectrum-dependent systems and equipment entering CENTCOM's area of responsibility without sufficient data.

As the Spectrum LSS Project Team mapped the current "as-is" process, they immediately addressed glaring gaps and overlaps. They identified four "quick wins" to improve the spectrum supportability process and fast track the availability of critical spectrum data to forward deployed naval warfighters, before and during the fielding of rapidly procured spectrum-dependent CE systems and devices. These quick wins are being executed while the project continues.

Quick Win No. 1: A checklist, "Minimum Technical Requirements For Rapidly Procured Spectrum-Dependent Equipment," identifies the minimum technical spectrum requirements that must be identified, known and available before and during the fielding of rapidly procured spectrum-dependent equipment.

This checklist does not eliminate the requirement to complete appropriate spectrum supportability documents such as the DD-1494s. The checklist is available on the DON CIO Web site at www.doncio.navy.mil/.

Quick Win No. 2: Rapid publication of technical data to the Navy's Afloat Electromagnetic Spectrum Operations Program (AESOP) and the Marine Corps' System Planning, Engineering and Evaluation Device (SPEED) databases, before the joint review and federal certification process.

The early dissemination of critical data will enable naval operational forces to perform automated prediction and engineering that will enhance CENTCOM's operational capabilities. It will help

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mitigate the time lag associated with data injection to spectrum databases, while leveraging existing naval databases that are widely used throughout the Department.

Quick Win No. 3: The addition of language in acquisition policy to mandate contractual requirements to provide technical spectrum data to alleviate excessive wait times associated with data requests to vendors. A requirement statement will be included in the next update of SECNAVINST 2400.1, "Electromagnetic Spectrum Policy and Management."

Quick Win No. 4: Clarifies the requirement to process equipment that uses legacy waveforms or has been issued a Federal Communications Commission identification number through the federal "certification" process. This will reduce DON spectrum engineering workload and result in a streamlined spectrum supportability process to better support the DON acquisition communities.

Like Quick Win No. 1, it does not eliminate the requirement to complete the DD-1494. Although the LSS project is in the "improve" phase of the "define, measure, analyze, improve, control" process, it has not slowed down the execution of the quick wins.

One lesson learned is that LSS empowers a team to challenge the status quo and make a difference. This LSS project is scheduled to complete the "control" phase in May 2008.

The quick wins together with the full LSS project underway have made and will continue to make great improvements to the fielding and supportability of spectrum-dependent communications and electronics equipment that support warfighters.

Mr. Kidd and Ms. Fairclough support the office of the DON CIO. Mr. Kidd is the Director, DON Strategic Spectrum Plans and Policy and Ms. Fairclough provides contractor support specializing in Lean Six Sigma program management and project implementation. They can be reached at DONSpectrumTeam@navy.mil.

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